



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,185	10/15/2004	Keiichi Nagano	50070-096	1951

7590 05/02/2006

McDermott Will & Emery
600 13th Street N W
Washington, DC 20005-3096

EXAMINER

CHOW, JEFFREY J

ART UNIT	PAPER NUMBER
----------	--------------

2628

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,185

Applicant(s)

NAGANO ET AL.

Examiner

Jeffrey J. Chow

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/15/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (JP 06-048218).

Regarding independent claim 1, Kato discloses a drop 1 that displays various information (display pattern) where the drop 1 outputs a display light 2 and where the display light 2 is reflected off a reflecting mirror 5 and where the reflecting mirror 5 is rotatable by a slewing gear 6 (paragraph 11), which reads on the claimed display apparatus for vehicles characterized by having a display device that emits display light, a reflecting member for reflecting the display light, driving means for angularly moving the reflecting member. Kato also discloses the reflecting mirror 5 makes the mid-position of the range which carries out movable criteria location of the reflecting mirror 5 (paragraph 19) and when the key switch is off, the slewing gear 6 drives the location of the reflecting mirror 5 to a criteria location (paragraph 23), which

Art Unit: 2628

reads on the claimed control means for angularly moving the reflecting member to a middle position of a predetermined angle range when an ignition switch is turned off.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 06-048218) in view of Kanamori et al. (JP 2001-097073).

Regarding dependent claims 2 and 3, Kato did not explicitly disclose angular positions are memorized, but did disclose the use of rotating the reflecting mirror 5 when the key switch is on. Kanamori discloses a heads-up display device for vehicles similar to Kato and where the rotation location of a reflecting mirror 50 is set as an initial value position in step 200 and where rotation location of the reflecting mirror 50 was memorized before the ignition switch IG is turned ON in step 231 and where the driving motor 73 moves the reflecting mirror 50 to the mentioned initial value position (paragraph 53), which reads on the claimed memory part for memorizing an angular position of the reflecting member and memory operations means for making the angular position be memorized in the memory part and the claimed ignition switch is turned on, the reflecting member is angularly moved to the angular position memorized in the memory part. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Kanamori's teachings of moving the reflecting mirror

Art Unit: 2628

to a memorized position when the ignition switch is on, which gives drivers the ability to change the position of the reflecting memory that has already been preset by the driver's preference without manually setting to desired position every time the position of the reflecting mirror has changed from the desired position, which is more convenient for the driver.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 06-048218) in view of Yamatani et al. (JP 11-278100).

Regarding dependent claim 4, Kato did not explicitly disclose a stepping motor, but did disclose the slewing gear 6 has a servo motor 61 attached to a rotation gear 64 (paragraph 12). Kato did not explicitly disclose switches that moves the reflecting mirror upward and downward, but did disclose the reflecting mirror to be rotatable upwardly and downwardly. Yamatani discloses stepping motor 29 that can rotate a reflecting mirror 25 and be adjusted by a switch (not shown) so the observer 9 may see the virtual image 10 (paragraph 16). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Yamatani's teachings of having observers to adjust the angle of rotation of the reflecting mirror to have a virtual image being displayed to the observer that is comfortably pleasing and convenient for the observer.

Claims 5, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 06-048218) in view of Takaoka (US 4,320,812).

Regarding independent claim 6, Kato discloses a drop 1 that displays various information (display pattern) where the drop 1 outputs a display light 2 and where the display light 2 is

reflected off a reflecting mirror 5 and where the reflecting mirror 5 is rotatable by a slewing gear 6 (paragraph 11), which reads on the claimed display apparatus for vehicles characterized by having a display device that emits display light, a reflecting member for reflecting the display light, driving means for angularly moving the reflecting member. Kato also discloses the reflecting mirror 5 makes the mid-position of the range which carries out movable criteria location of the reflecting mirror 5 (paragraph 19). Kato did not disclose the middle position of the angle range is an origin position. Takaoka discloses an original position restore circuit whereby at the start of the vehicle, the rotor of the stepping motor is restored from the final stop position to the original position for control (column 5, lines 54 – 59 and column 8, lines 48 – 51) and here the original position restore circuit restores the rotor of the stepping motor to the original position (column 5, lines 37 – 59). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Takaoka's teachings of a pre-step process of returning the stepping motor to its original position upon the start of an engine to return the reflective mirror to an original position upon the start of an engine.

Regarding dependent claim 7, Takaoka discloses an original position restore circuit whereby at the start of the vehicle, the rotor of the stepping motor is restored from the final stop position to the original position for control (column 5, lines 54 – 59 and column 8, lines 48 – 51) and here the original position restore circuit restores the rotor of the stepping motor to the original position (column 5, lines 37 – 59), which reads on the claimed having control means for angularly moving the reflecting member to the origin position when an ignition switch is turned on.

Regarding dependent claim 5, Kato did not explicitly disclose a middle detection mean, but discloses a process of moving the reflecting member to the middle position when the ignition switch is turned off. Takaoka discloses an original position restore circuit whereby at the start of the vehicle, the rotor of the stepping motor is restored from the final stop position to the original position for control (column 5, lines 54 – 59 and column 8, lines 48 – 51) and here the original position restore circuit restores the rotor of the stepping motor to the original position (column 5, lines 37 – 59). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Takaoka's teaching of a having a middle detection circuit to move the reflecting member to the original position with a middle detection position when the ignition switch is turned off, which provides the hardware to accurately and properly detect the middle position.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 06-048218) in view of Takaoka (US 4,320,812) and Yamatani et al. (JP 11-278100).

Regarding dependent claim 10, Kato did not explicitly disclose a stepping motor, but did disclose the slewing gear 6 has a servo motor 61 attached to a rotation gear 64 (paragraph 12). Kato did not explicitly disclose switches that moves the reflecting mirror upward and downward, but did disclose the reflecting mirror to be rotatable upwardly and downwardly. Yamatani discloses stepping motor 29 that can rotate a reflecting mirror 25 and be adjusted by a switch (not shown) so the observer 9 may see the virtual image 10 (paragraph 16). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Takaoka's teaching and Yamatani's teachings of having observers to adjust the angle of

Art Unit: 2628

rotation of the reflecting mirror to have a virtual image being displayed to the observer that is comfortably pleasing and convenient for the observer.

Claims 8, 9, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (JP 06-048218) in view of Takaoka (US 4,320,812) and Kanamori et al. (JP 2001-097073).

Regarding dependent claim 8, Kato did not explicitly disclose angular positions are memorized, but did disclose the use of rotating the reflecting mirror 5 when the key switch is on. Kanamori discloses a heads-up display device for vehicles similar to Kato and where the rotation location of a reflecting mirror 50 is set as an initial value position in step 200 and where rotation location of the reflecting mirror 50 was memorized before the ignition switch IG is turned ON in step 231 and where the driving motor 73 moves the reflecting mirror 50 to the mentioned initial value position (paragraph 53), which reads on the claimed memory part for memorizing an angular position of the reflecting member and memory operations means for making the angular position be memorized in the memory part and the claimed ignition switch is turned on, the reflecting member is angularly moved to the angular position memorized in the memory part. It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Takaoka's teachings of a pre-step process of returning the stepping motor to its original position upon the start of an engine and Kanamori's teachings of moving the reflecting mirror to a memorized position when the ignition switch is on, which gives drivers the ability to change the position of the reflecting memory that has already been preset by the driver's preference without manually setting to desired position every time the position of the reflecting mirror has changed from the desired position, which is more convenient for the driver.

Regarding dependent claim 9, Kato or Kanamori did not disclose a pre-step process of moving the reflective member to the original position when the ignition switch is turned on. which setting the position the original position every time the engine starts would prevent malfunction to the motor. Takaoka discloses an original position restore circuit whereby at the start of the vehicle, the rotor of the stepping motor is restored from the final stop position to the original position for control (column 5, lines 54 – 59 and column 8, lines 48 – 51) and here the original position restore circuit restores the rotor of the stepping motor to the original position (column 5, lines 37 – 59). It would have been obvious for one of ordinary skill in the art at the time of the invention to combine Kato's system with Takaoka's teachings of a pre-step process of returning the stepping motor to it's original position upon the start of an engine and Kanamori's teachings of moving the reflecting mirror to a memorized position when the ignition switch is on, which setting the position to the original position every time the engine starts would help prevent malfunction to the motor.

Regarding dependent claim 11, claim 11 is similar in scope to claims 6 – 9, and thus the rejections for claims 6 – 9 hereinabove are applicable to claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey J. Chow whose telephone number is (571)272-8078. The examiner can normally be reached on Monday - Friday 10:00AM - 5:00PM (EST).

Art Unit: 2628

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJC


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER